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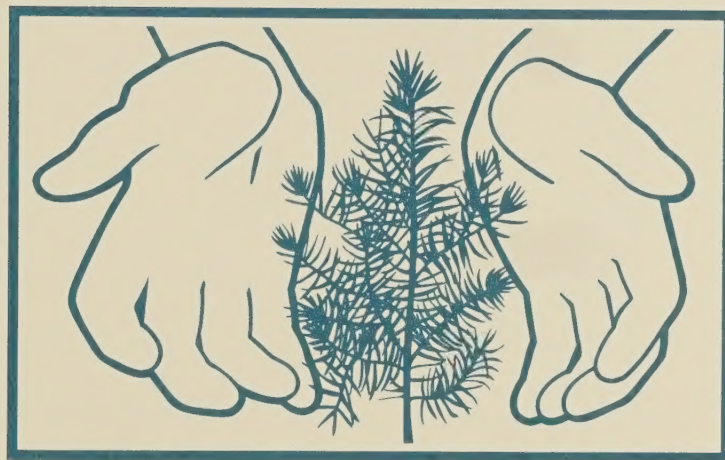
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# Request for Participation #6

## Summary of the Draft Environmental Impact Statement

### Managing Competing and Unwanted Vegetation



A *New Program* for managing competing and unwanted vegetation is being developed by the Pacific Northwest Region (Oregon and Washington) of the USDA Forest Service. This **Request for Participation** is the **sixth** in a series of requests for your help in developing the Environmental Impact Statement (EIS) for our new program. This request is **significantly different than the others**. It represents an important milestone — an **invitation to comment** on the Draft EIS “**Managing Competing and Unwanted Vegetation**.” To help you comment, we are providing this 23-page summary of the draft EIS and a simple response form. We look forward to hearing from you.

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Agriculture**



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## Welcome ...

... and thank you for your interest in working with us to develop a new vegetation management program for the National Forests in Oregon and Washington.

This summary presents the highlights of the Draft Environmental Impact Statement (draft EIS). It will give you a brief look at the management alternatives we are proposing and our predictions of their effects.

We invite you to read the summary; come to meetings or open houses; and share your comments on our proposals for managing competing and unwanted vegetation.

Publishing a draft EIS is a milestone in any environmental analysis. However, it is important to remember this is just a building block in the development of a final decision. Hearing what you have to say about the draft EIS is important. Your comments will help us shape a final Environmental Impact Statement and help us make the best possible decisions.

The decisions that are ultimately made for vegetation management (after public comment and preparation of the FEIS) will guide management on all National Forests in Oregon and Washington. They will provide information and policies that will be considered in preparation of Land and Resource Management Plans for each National Forest.



## The Complete Draft EIS

This summary highlights major points of the draft EIS. For some of you it may be enough information. For others, the summary, may pique your interest enough to want a complete draft EIS and Appendices. The complete draft EIS includes:

Draft Environmental Impact Statement and Summary (300 pages)

- Chapter I — An introduction to vegetation management, the public issues surrounding it, “the NEPA process”, and other considerations.
- Chapter II — The presentation and comparison of the alternatives, with information on how they would be implemented with measures to protect the environment.
- Chapter III — descriptions of the physical and biological setting of the Pacific Northwest Region.
- Chapter IV — Changes likely to occur with implementation of any of the alternatives

Detailed supporting and background information is presented in over 700 pages of appendices:

- A. Timber Growth and Yield Analysis
- B. Economic Efficiency Analysis
- C. Herbicide Use and Efficacy
- D. Human Health Risk Assessment (Quantitative)
- E. Silviculture Program Effects
- F. Rangelands of the Pacific Northwest Region
- G. Vegetation Management Activities
- H. Resource Programs and Human Health Risk Assessment (Qualitative)
- I. Public Participation and Consultation

To receive a complete draft copy, contact your *nearest* **National Forest Headquarters Office**. The names, addresses and telephone numbers of all our Forest Headquarters (and the Regional Office in Portland) are listed in the following pages.

## Write To Us

One of the cornerstones of our entire analysis has been listening to your thoughts, ideas and concerns — and doing our best to reflect your perspectives in the draft EIS. Many of you have been working intensively with us, some for over a year! We are confident we have a much improved analysis as a result of your contributions.

We are pleased to have a published document that you can now study and review. We hope you will spend some concentrated time doing just that. We need to know what you think and hope you will respond thoughtfully by:

- ... telling us which alternatives you support, or changes that could be made;
- ... reviewing our scientific information and analysis, and suggesting any information we have overlooked;
- ... considering the measures we have proposed to protect the environment, (what we call, "mitigation measures").

Remember, you have until January 15, 1988 to complete your review and tell us your point of view and the rationale behind it. Please use the simple response form enclosed, or addresss your comments to:

Gary Larsen  
Vegetation Mangement Group Leader  
USDA Forest Service, Pacific Northwest Region  
P.O. Box 3623  
Portland, OR 97208

Your response, and the responses of others, will be carefully considered at the end of the comment period. Your comments are an important part of the decisionmaking process.

While you can respond to the draft EIS through studying the document and writing a letter, there are also other ways to get involved.

During the comment period, public involvement activities will be occuring throughout Oregon and Washinton. Meetings, mailings, and open-houses are being sponsored by National Forests in Oregon and Washington and the Regional Office in Portland. We are eager to meet with different groups, both during and following the comment period, to continue open channels of communication and understanding.

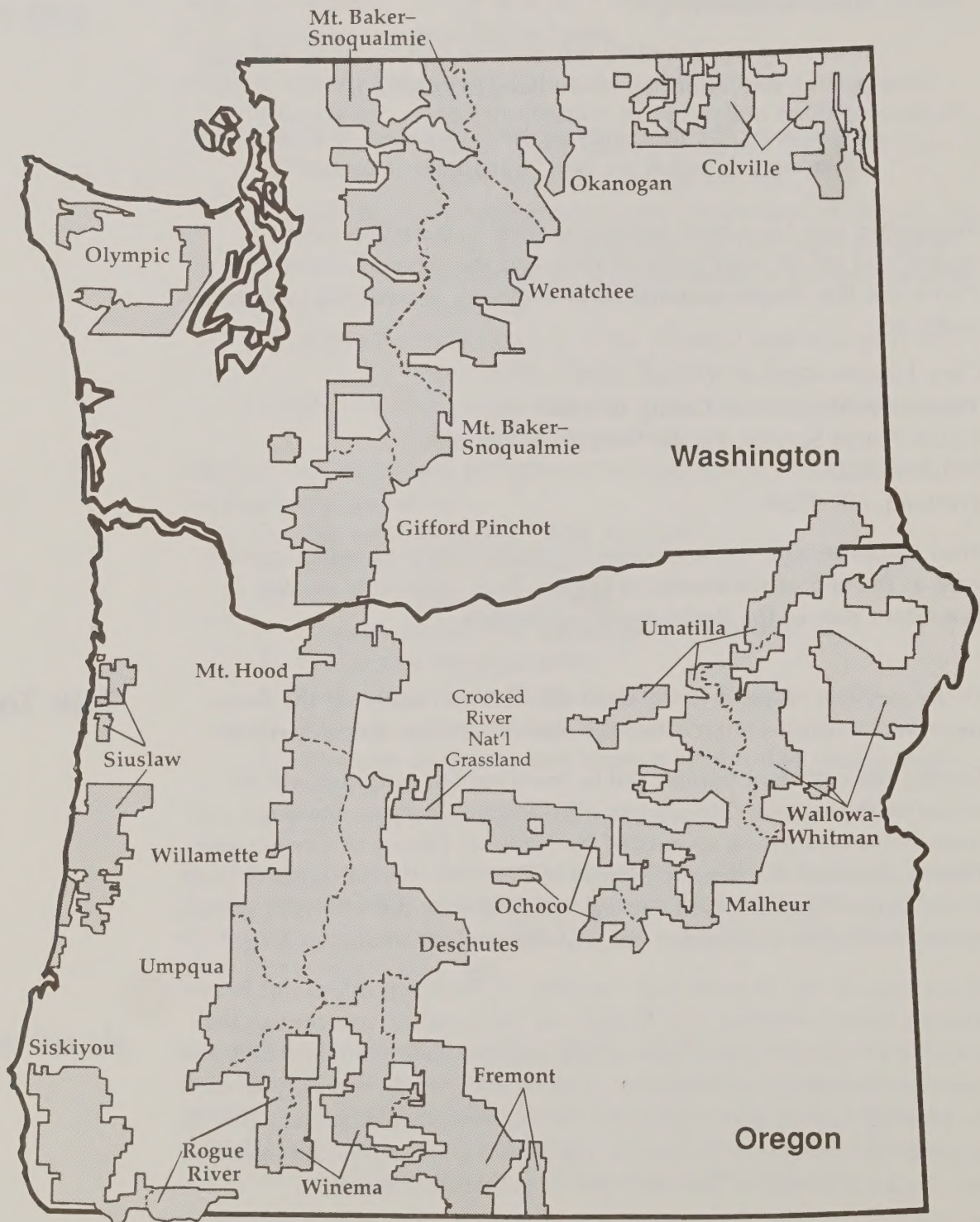
If you would like to participate in some of these activities (and haven't already been contacted by a Forest), we recommend you contact the local Forest Service office with which you are most familiar. Many Forests are developing mailing lists of interested people and they would be pleased to visit with you about the vegetation management EIS. For some of you, particularly state or regional organizations and agencies, the Regional Office in Portland will be your best contact.

Again, there is a complete list of Forest Headquarters and addresses in the following pages of this "Request for Participation."

## Talk To Us



## National Forests of the Pacific Northwest Region





## National Forests

Colville National Forest  
695 S. Main  
Colville, WA 99114  
(509) 684-3711

Deschutes National Forest  
1645 Highway 20 East  
Bend, OR 97701  
(503) 388-2715

Fremont National Forest  
524 North G. St.  
Lakeview, OR 97630  
(503) 947-2151

Gifford Pinchot National Forest  
500 West 12th Street  
Vancouver, WA 98660  
(206) 696-7500

Malheur National Forest  
139 N.E. Dayton Street  
John Day, OR 97845  
(503) 575-1731

Mt. Baker-Snoqualmie  
National Forest  
1022 First Avenue  
Seattle, WA 98104  
(206) 442-5400

Mt. Hood National Forest  
2955 NW Division Street  
Gresham, OR 97030  
(503) 666-0700

Ochoco National Forest  
155 North Court Street  
Prineville, OR 97754  
(503) 447-6247

Okanogan National Forest  
1240 2nd Avenue South  
Okanogan, WA 98840  
(509) 422-2704

Olympic National Forest  
801 Capitol Way  
Olympia, WA 98507  
(206) 753-9535

Rogue River National Forest  
333 West 8th Street  
Medford, OR 97501  
(503) 776-3600

Siskiyou National Forest  
200 NW Greenfield Road  
Grants Pass, OR 97526  
(503) 479-5301

Siuslaw National Forest  
4077 SW Research Way  
Corvallis, OR 97333  
(503) 757-4480

Umatilla National Forest  
2517 SW Hailey Avenue  
Pendleton, OR 97801  
(503) 276-3811

Umpqua National Forest  
2900 NW Stewart Parkway  
Roseburg, OR 97470  
(503) 672-6601

Wallowa-Whitman National Forest  
1550 Dewey Avenue  
Baker, OR 97814  
(503) 523-6391

Wenatchee National Forest  
301 Yakima Street  
Wenatchee, WA 98801  
(509) 662-4335

Willamette National Forest  
Federal Building  
211 East 7th Avenue  
Eugene, OR 97401  
(503) 687-6521

Winema National Forest  
2519 Dahlia  
Klamath Falls, OR 97601  
(503) 883-6714

USDA Forest Service  
Pacific Northwest Region  
319 SW Pine Street  
Portland, OR 97204  
(503) 221-2727





# Summary

The Pacific Northwest Region of the USDA Forest Service is headquartered in Portland, Oregon. It includes Oregon, Washington, and parts of a few counties in California and Idaho. In this Region, the Forest Service administers 19 National Forests (including one National Grassland) totalling 24.5 million acres.

Terrain and vegetation vary widely across the Region. There is a great variety of landforms, from coastal dunes and flat grasslands to rolling hills, steep ridges, and volcanoes. Natural vegetation ranges from the Olympic rain forest to interior high deserts.

In the course of managing National Forests in the Pacific Northwest, managing competing and unwanted vegetation is a major effort. The effort involves many activities, such as preparing sites for planting trees, or clearing away roadside brush. Each activity uses different methods to treat the vegetation, including burning with prescribed fire, cutting by hand, crushing with heavy equipment, or spraying with herbicides.

This large program has the potential for significant environmental effects, and has generated public concern and a series of issues. A Draft Environmental Impact Statement has been prepared. This is a summary of that document. It outlines the Region's vegetation management program, its issues, the proposed alternatives and mitigation measures, and the environmental effects of those alternatives.

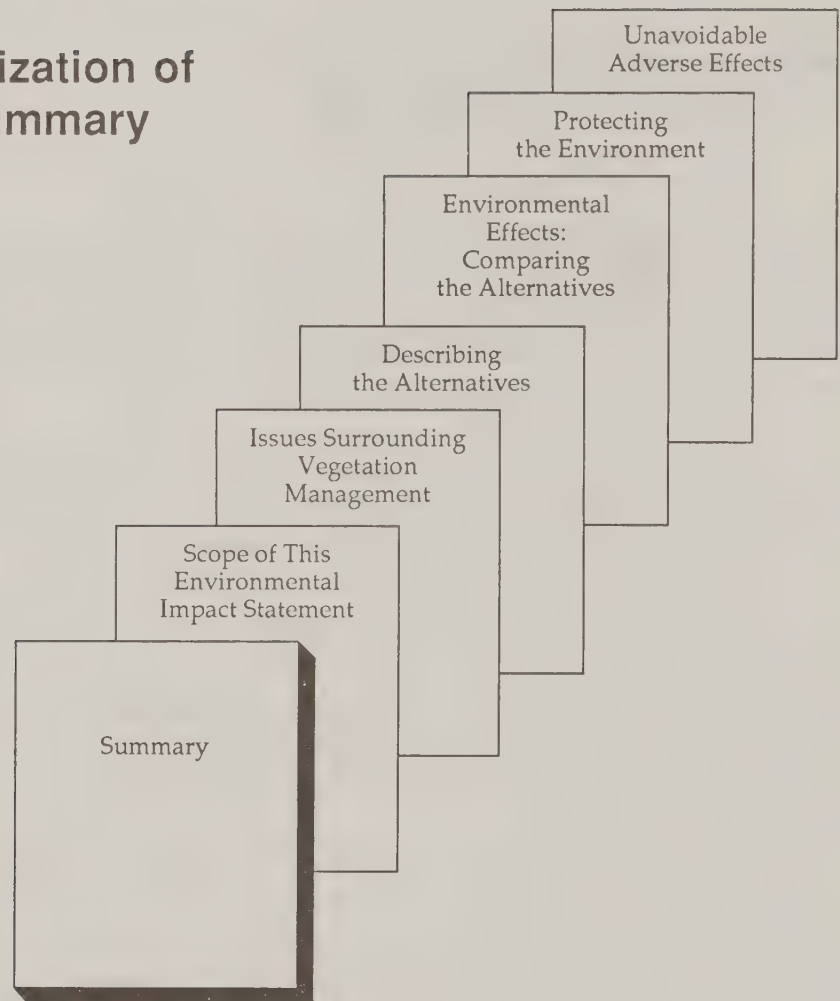
After carefully considering comments from the public, scientists, and government agencies on the Draft Environmental Impact Statement (DEIS), a Final Environmental Impact Statement (FEIS) will be prepared and issued. That final version will be the basis for the selection of a new program of vegetation management.

Decisions based on the Final Environmental Impact Statement could affect future Forest Plans. Both existing plans and those being prepared assume that all methods of managing competing and unwanted vegetation are available. If the new vegetation management program would significantly change the way lands and resources would be managed on a National Forest, then changes in the Forest Plan will be made as needed.

Information is arranged in this summary as shown:

Figure S-1

## Organization of the Summary



### Scope of This Draft Environmental Impact Statement

At the end of the environmental analysis process documented in both the Draft and Final Environmental Impact Statements, the Regional Forester will select a program for managing vegetation. This program affects all Forest Service activities requiring the management of competing and unwanted vegetation, including logging residue (slash). These activities include:

- preparing sites for planting trees;
- releasing young conifers from competing vegetation;
- managing and preventing fires;
- improving range conditions for livestock;
- controlling noxious weeds;
- improving wildlife habitat;
- maintaining recreation and administrative facilities;
- maintaining roadsides and utility corridors; and
- supporting the tree genetics and research programs.



Many of the items listed are major activities involving a variety of actions and tasks. Only the portions of each activity that involve managing competing and unwanted vegetation are affected by decisions made as a result of this Draft Environmental Impact Statement. (Note: activities in Forest Service tree nurseries are not included; they will be analyzed separately in a different environmental impact statement.)

Methods of vegetation management considered here include use of herbicides, prescribed burning, manual work, biological treatments, and mechanical means.

### ***Managing Competing and Unwanted Vegetation***

Unwanted plants and residues are part of ecological systems. They may play useful as well as harmful roles in those systems. Thus, an understanding of each ecological system is essential for effective management of unwanted vegetation, and is also necessary for long-term beneficial use of those plant communities.

Efforts to control or eradicate unwanted vegetation may have significant environmental impacts on the rest of the ecological system. An environmental impact statement such as this one examines those environmental impacts.

In an environmental analysis, public issues play a substantial role in forming the alternatives, raising questions for analysis, and focusing thought and discussion when selecting the preferred alternatives.

The following issues were distilled from the comments of the general public, interested groups, government agencies, and Forest Service employees. These people participated in early public involvement efforts that provided information about issues this environmental impact statement should address, and about ways the public could be involved throughout the whole analytical process.

The seven public issues shaping this Draft Environmental Impact Statement are:

### ***Human Health***

Human health issues have been a major focus of controversy over vegetation management practices in recent years. Much attention has centered on the safety of using herbicides for vegetation control. The effects of smoke from prescribed burning has also emerged as an important health issue, along with the need to evaluate the health and safety effects of manual methods of managing vegetation.

### ***Public Participation***

Public participation is an element of a successful program for manag-

## **Issues Surrounding Vegetation Management**

ing public lands and natural resources. Public participation in vegetation management decisionmaking is an especially important and sensitive issue because of past conflict-charged relations. Members of the public have asked to be included throughout the development of the Draft Environmental Impact Statement; for continuing participation and information sharing after the decision has been made; for participation in site-specific, project level planning; and for readable, clear analyses and documents.

### ***Social and Economic Effects***

Vegetation management activities have direct effects on employment and the quality of community life. The vegetation management program influences how much timber the Region can grow and harvest. The quality of grazing, water, recreation, and wildlife habitat may also be affected. These Forest activities support jobs directly and indirectly in many sectors of the economy. The alternatives will have economic effects, along with effects on the well-being of communities.

### ***Cost and Benefit Analysis***

National Forests offer a wide range of goods and services. Some of those goods and services are sold or leased; other are provided at no fee. It also takes money, people, and resources to manage the Forests. The concern in this issue is that money and resources be wisely managed and put to the most effective and most beneficial use.

### ***Environmental Effects***

All facets of the environment contribute to providing products such as quality air, water, and timber. To produce a continuing supply of these and other benefits, the ecosystem must remain healthy. There is concern both by the public and the Forest Service about the physical and biological effects on the environment when applying vegetation management techniques.

### ***Effectiveness of Techniques***

There are many different vegetation management techniques and many different site characteristics and conditions. It is important to match the appropriate technique to the circumstance and particular site. Sharing knowledge of current techniques, products, and technology is an important aspect of this match. In addition, measures must be taken to assure that desired results are being achieved.

### ***Interagency Coordination***

Agencies at all levels of government have a shared interest in vegetation management. Many agencies have responsibilities for vegetation



management that overlap those of the Forest Service. These may be directly or indirectly affected by decisions made as the result of an environmental analysis. Coordination with national, state, and local agencies is important in developing a program for vegetation management.

In an environmental impact statement, the alternatives propose alternate direction for the activities being considered. The different effects of the alternatives, including their advantages and disadvantages, can be compared and evaluated. This Draft Environmental Impact Statement provides seven alternative ways of managing competing and unwanted vegetation.

The seven alternatives provide different instructions to the people analyzing, designing, and carrying out vegetation management in the Region. Thus, rather than specifying the precise way a particular project would be done, these alternatives present different ways that the vegetation management program would be conducted across the whole Region.

While the alternatives differ in the kind and degree of instruction given, all require a site-specific analysis covering each project to be conducted by the local National Forest or Ranger District. Analysis procedures are firmly guided by “the NEPA process”—the Forest Service procedures for implementing the National Environmental Policy Act.

## **Describing the Alternatives**

Figure S-2

## Overview of the Alternatives

Alternatives	A	B**	C
Manages Competing and Unwanted Vegetation	...with no herbicides.	...with all effective tools.	...rarely, and only for human safety.
Time for Action	At first sign before damage occurs.	At first sign before damage occurs.	No action unless vegetation threatens public safety.
Project Design	Prevention* and correction* both o.k.; herbicides will not be used.	Prevention and correction both o.k.; all tools and methods available.	Correction only; fire and herbicides both prohibited.

\* "Prevention" and "correction" are two strategies for managing vegetation.

Successful prevention keeps vegetation problems from getting to the point where they require correction.

\*\* Forest Service preferred alternatives.



D**	E**	F	G
...emphasizing prevention and the use of natural processes.	...with restricted use of herbicides and special worker safety.	...with no burning for silviculture.	...aggressively, with all tools.
At first clear sign of potentially significant damage.	At first sign, before significant damage occurs.	At first sign, before damage occurs.	At first sign, before damage occurs.
Prevention is preferred; herbicides available as a last option.	Prevention is preferred; some herbicides prohibited, no aerial application; manual use restricted.	Prevention and correction o.k.; fire will not be used to treat slash or prepare planting sites.	Prevention and correction o.k.; all tools and methods freely available.

## **The Alternatives**    ***Alternative A***

This alternative is designed to eliminate all risk associated with the use of herbicides. Other effective and efficient techniques are to be used in managing competing and unwanted vegetation.

In compliance with a 1984 U.S. District Court injunction, the Forest Service in the Pacific Northwest currently cannot use herbicides. Alternative A approximates this current vegetation management program carried into the future.

### ***Alternative B***

Under Alternative B, all effective and efficient techniques for managing competing and unwanted vegetation are available, consistent with the direction provided in applicable land and resource management plans.

The management of competing and unwanted vegetation specified in this alternative approximates the direction presented in proposed Forest Plans. Alternative B and the fiscal year 1989 program serves as the reference for comparison of budgets, outputs, and vegetation management activities for all other alternatives.

### ***Alternative C***

The vegetation management approach here is one of “no action” unless public safety is clearly and directly threatened. For example, hazard trees will be removed from campgrounds, and roadside brushing will be done to maintain safe travel, but virtually none of the vegetation management normally associated with forest management will be done. Some resource production objectives may not be met.

There is virtually no active intervention to manage competing and unwanted vegetation in Alternative C. Only situations that pose a direct threat to public safety will trigger action to suppress unwanted vegetation. In these cases, neither herbicides nor fire will be used.

### ***Alternative D***

The key to this alternative is the prevention of problem vegetation conditions through the integration of natural ecosystem processes into management of competing and unwanted vegetation. In Alternative D, vegetation management emphasizes leaving the least impact on the natural environment while producing products and amenities for human use.

The implementation of this alternative will involve early preventive measures, monitoring of sites, and frequent evaluations of conditions and practices. Vegetation is managed to avoid the need for corrective measures. However, correction, if needed, is done in a way to least alter natural ecosystems and processes.

**Alternative E**

This alternative is designed to reduce the risks of herbicide use to the public, and to improve the safety of forest workers when they apply herbicides and cut vegetation. No aerial application of herbicides is permitted; specific herbicides are prohibited; and additional safety requirements for workers are imposed.

**Alternative F**

This alternative is designed to manage competing and unwanted vegetation without the use of prescribed fire for silvicultural purposes. All other effective and efficient techniques of vegetation management are available. The burning of logging slash will be allowed for reducing wildfire hazards. Residue utilization is encouraged in place of burning; and burning of chemically treated vegetation is prohibited.

**Alternative G**

This alternative manages competing and unwanted vegetation more aggressively than Alternative B. The emphasis is on maximum production of forest resources for human use. All cost-efficient techniques for managing vegetation are available. It stresses looking for opportunities to increase timber and forage production (through vegetation management) beyond that predicted by the Forest Plans.

**Preferred Alternatives**

Alternatives B, D, and E are the Forest Service's preferred alternatives. The three alternatives are especially responsive to the key issues of human health, social and economic effects, and effects on the environment. In the Final Environmental Impact Statement, one alternative will be selected as the preferred alternative, and it will be the basis for the Region's vegetation management program in the future.

Chapter IV in the Draft Environmental Impact Statement presents in detail the environmental consequences of the alternatives. For this Summary, much-condensed presentations of the information are found in Figures S-3 and S-4.

This Draft Environmental Impact Statement examines alternative programs for managing competing and unwanted vegetation. It is concerned with how a series of vegetation management programs—conducted over a period of years—could affect the environment and the production of goods and services from the Region's National Forests.

Effects were analyzed for a great range of resources—from soil and water to timber, recreation, wildlife, and social and economic conditions. The public issues say that several environmental effects are

**Environmental Effects:  
Comparing the Alternatives**



Figure S-3

## Activity and Implications by Alternative

	<b>A</b>	<b>B</b>
<b>Acres managed annually for competing and unwanted vegetation:</b>		
Total	552,100	553,000
Using herbicides	0	59,900
Using mechanical methods	184,600	167,200
Using manual methods	99,000	77,800
Using biological methods	14,800	4,300
Using prescribed fire	217,800	210,000
Receiving no treatment	24,400	19,900
Other	11,500	14,100
<b>Annual Effects and Implications:</b>		
Risk to Workers (Index) <sup>1</sup>	266	318
Risk to Public (Index) <sup>1</sup>	266	288
Risk to Workers (Injury accidents)	1,260	1,082
<b>Emissions from Prescribed Fires</b>		
(Change from current):		
West-side	36% less	33% less
East-side	33% less	35% less
<b>Long-Term Sustained Yield Capacity<sup>2</sup>:</b>		
(Change from Alternative B, in million board feet)	95 to 125 less	0
<b>Present Net Value<sup>3</sup>:</b>		
(Change from Alternative B, in million dollars)	468 less	0
<b>Change in Jobs<sup>4</sup>:</b>		
(Change from Alternative B)	1,100 fewer	0

<sup>1</sup>The risk index (higher values indicate higher risk) is a function of the areas treated with herbicides, with prescribed fire, and subject to wildfire.

<sup>2</sup>This is the long-term capacity for the entire Pacific Northwest Region; the percent change will be greater for some National Forests, less for others. The allowable timber sale quantity will be set by Forest Plans. The tie between it and long-term capacity varies by National Forest.

<sup>3</sup>Present Net Value is a measure of all the benefits from the National Forests that can be expressed in dollars after the costs of managing the Forests have been subtracted. Future costs and benefits are discounted at four percent.

<sup>4</sup>The change in the number of jobs includes all jobs directly and indirectly affected jobs in Oregon and Washington.

C	D	E	F	G
86,800	380,500	548,600	566,400	579,600
0	26,800	47,900	64,100	76,600
44,900	111,600	166,900	201,000	155,600
17,700	57,800	95,100	80,100	85,700
3,800	18,700	5,900	8,300	6,900
0	125,800	194,000	175,800	215,000
15,600	23,800	24,100	36,100	21,500
4,800	16,000	14,700	11,000	18,300
75	216	290	294	343
75	203	242	262	305
192	760	1,179	1,029	1,156
no burning for veg. management	63% less 60% less	46% less 37% less	63% less 53% less	35% less 31% less
1,000-2,000 less	55-85 less	35-65 less	95-125 less	95-125 more
3,877 less	246 less	132 less	322 less	24 more
21,700 fewer	3,100 fewer	1,300 fewer	3,100 fewer	2,600 more

Figure S-4

## How Alternatives Respond to Issues

ISSUES	UNIT OF MEASURE	ALTERNATIVE	
		A	B
<b>Human Health</b>	Qualitative risk assessment	Eliminates risk from herbicides. Increased risk from other methods. Reduces perceived risk by public.	Historical risk pattern continues. Problems with perceived risk continue.
<b>Public Participation</b>	Guidelines for project planning	Same as Alternative B.	Interested public informed and involved in vegetation management.
<b>Social &amp; Economic Effects</b>			
- Change in payments to local governments	Million \$ per year	- 4.9	Reference***
- Change in personal income	Million \$ per year	- 28	Reference
- Change in jobs	Number of jobs	- 1,100	Reference
- Predicted change in LTYSC* capacity (over full rotation)	% Change Million Board Feet	- 2-1/2 to 3% - (95 to 125)	Reference
<b>Cost/Benefit Analysis</b>			
- Change in Present Net Value	Million \$	- 468	Reference
- Change in Forest Service Budget	Million \$	+ 1	Reference
<b>Environmental Effects</b>			
- Long-term productivity	Biomass Production	Same as Alternative B.	Continuation of current conditions, as modified by applicable land and resource management plans.
- Air quality (All alternatives meet state TSP** reduction goals by the year 2000.)	Reduction of TSP emissions from current levels by the year 2000	West-side levels reduced by 36%; East-side levels reduced by 35%.	West-side levels reduced by 33%; East-side levels reduced by 35%.
<b>Effectiveness of Techniques</b>	Quality of tree establishment and early growth (Commercial species)	Some problems in tanoak-madrone, ceanothus spp. and herbaceous veg., leading to tree mortality and growth loss in new plantations.	Continuation of current techniques (with herbicides restored to use).
<b>Interagency Coordination</b>	Guidelines for project planning	Same as Alternative B.	Coordination with State and local agencies required in project design.

\* LTYSC: Long-Term Sustained Yield Capacity (for timber production). This is the average for all 19 National Forests. The change will be much greater on some forests; less on others. The annual timber sale quantity will be determined in individual Forest Plans.

\*\*TSP: Total Suspended Particulates (smoke).

\*\*\* Reference: Level expected with implementation of the Forest Plan.



C	D	E	F	G
Little risk from managing vegetation. Some increased risk from noxious weeds and travel accidents.	Risk decreases through prevention. Because of less treatment, perceived risks lowered.	Risk to public reduced. Risks to workers near current levels, despite extra safety measures. Perceived risk lower.	Risks from fire and smoke reduced. Increase in herbicide use. Perceived risks probably higher.	Risk to public and workers increases because of more treatment. Perceived risks increased.
Involvement infrequent due to few projects.	As in Alternative B, with increased emphasis is on early involvement through to project implementation.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
- 57.1	- 7.4	- 4.3	- 8.4	+ 2.6
- 533	- 76	- 33	- 75	+ 63
- 21,800	- 3,100	- 1,400	- 3,100	+ 2,600
- 25 to 50%	- 1-1/2 to 2%	- 1 to 1/2%	- 2-1/2 to 3%	+ 2-1/2 to 3-1/2%
- 1,000 to 2,000	- 55 to 85	- 35 to 65	- 95 to 125	+ 95 to 125
- 3,877	- 246	- 132	- 322	+ 24
- 126	- 21	- 9	- 19	+ 20
Substantial loss; fire increases above current and natural levels, results in soil damage.	Slight increase from leaving biomass on site, fire risk managed, nutrient availability will increase.	Same as Alternative B.	Same as Alternative B.	Slight decrease. Aggressive control and residue use results in less biomass, nutrients on site. Less mechanical and fire damage to soils.
No burning for silviculture; but substantial increases in wildfire and smoke.	West-side levels reduced by 63%; East-side levels by 60%.	West-side levels reduced by 46%; East-side levels reduced by 37%.	West-side levels reduced by 63%; East-side levels reduced by 53%.	West-side levels reduced by 35%; East-side levels reduced by 31%.
No vegetation management.	Minor reduction in effectiveness on some existing problem sites; future techniques will draw on experience with preventive measures, effectiveness will be near current levels.	Effectiveness reduced in dense vegetation and steep terrain.	Effectiveness reduced in plantations with large amounts of competing vegetation or logging residue.	Some marginally suitable land will come under management. Stocking levels will increase in some areas.
Little coordination, as no management of most competing and unwanted vegetation.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

of strong concern.

Two areas of environmental effects are of particular interest to many people: human health risks, and the economic effects of variations in timber production. Concern for risks to human health are primarily related to the use of herbicides; smoke due to prescribed fires; and accidents. Concern about economic variations is related to changes in jobs; long-term yields of forests; and economic effectiveness.

Each alternative was constructed to respond with special emphasis to a different issue or combination of issues. Thus, each has its own set of environmental effects.

The analysis of environmental effects of each alternative addresses the effects of different methods of vegetation management on the physical, biological, social, and economic components of the environment.

For each management activity, the general effects of each of the five methods of vegetation management treatments (use of herbicides, prescribed fire, mechanical, manual, and biological methods) were analyzed. Mitigating measures designed to avoid adverse environmental impacts from the use of each method are also established. (The specific effects of individual projects are not assessed in this Draft Environmental Impact Statement because they will be addressed at the local level in site-specific environmental analyses.)

Chapter IV in the Draft Environmental Impact Statement presents the environmental consequences in detail. Chapter II contains a complete description of all alternatives (including those identified as “preferred”), along with a detailed comparison of them in terms of issues. Figure S-4 presents a summary of the major elements of that comparison.

## Protecting the Environment

As an integral part of developing this EIS, mitigation measures were developed to reduce, avoid, or minimize potentially adverse impacts on the environment which might result from vegetation management activities.

The mitigating measures were developed using Federal laws and regulations; the intent of state resource laws; existing direction found in Forest Service Manuals and Handbooks; land and resource management plans; resource management experience; and research findings.

Several mitigating measures cover all vegetation management activities, regardless of method. Others apply to a particular method. These mitigating measures are tied to methods. If a method is used in an alternative, the mitigating measures associated with that method will be followed.

What follows is a summary of the mitigation measures that apply to vegetation management. (For more information, refer to “Mitigation Measures and Vegetation Management Methods” in Chapter II of the Draft Environmental Impact Statement. Additional information on the effectiveness and impacts of mitigation measures is in Chapter IV, Environmental Consequences.)

### ***Mitigation Measures***

Before using any method of vegetation management, Forest Service personnel will be required to:

- conduct environmental analysis, including scoping, as required in Forest Service Manual 1950, for each proposed project;
- prepare a human health risk management plan for each project; and
- provide training and quality control at Regional, National Forest, and District Offices.

The mitigation measures that apply to all silvicultural vegetation management require:

- a documented prescription, prepared or approved by a certified silviculturist; and
- a site-specific diagnosis that meets Forest Service Silvicultural Practices Handbook standards (2409.17) and treatment needs (2409.26c).

***Biological methods:*** when using livestock to control vegetation, the Forest Service will notify affected water users, and assure strict control of livestock near riparian areas. The release of insects to control specific vegetation requires coordination with state and Federal agencies. Site analysis will explore the seeding of compatible plants and the use of genetically superior seedlings, natural seedlings, and advance regeneration as ways to prevent or minimize the need for future vegetation management.

***Manual methods:*** when using workers with hand and power tools to treat vegetation, safety risks will be analyzed and incorporated into the human health risk management plan.

***Mechanical methods:*** when mechanical methods of treating unwanted vegetation and logging residues are used, tractors will not be used on steep slopes; on highly compactible soils; on erodible soils in municipal watersheds; or during conditions with high risks to soils.

Buffers of vegetation will be left along streams, lakes, and wetlands to minimize sedimentation. Slash will not be piled in stream flood plains.



*Use of herbicides:* some of the alternatives would allow use of herbicides; some would not. If herbicides are used, there will be strict adherence to:

- EPA label instructions for the herbicide;
- applicable state and Federal laws; and
- site-specific mitigation measures.

If herbicides are used, these specific measures will be implemented:

- downstream water users and adjacent landowners will be notified of planned use of herbicides;
- precautions against accidental leaks or spills will be taken;
- mixtures will be prepared and equipment will be cleaned in areas outside sensitive watersheds, where ground water will not be contaminated;
- spray droplet size will be optimized to minimize drift;
- specified buffers will be left along streams, rivers, lakes, and wetlands;
- pilot vehicles will be used when transporting mixed herbicides; and
- monitoring will be done to assure effectiveness of mitigation measures during spray operations.

Herbicide use will be in compliance with Forest Service Pesticide Use Manual (FSM 2150) direction. Forest Service Handbook standards will be followed, specifically:

- Chapter 2109.11 for planning projects;
- Chapter 2109.12 for storing, handling, and transporting herbicides, and for spill prevention, cleanup, and disposal requirements;
- Chapter 2109.13 for defining worker training and experience requirements; and
- Chapter 6709.11 for identifying worker safety requirements.
- Individual National Forests will provide detailed guidance for large projects.
- Applicator training, testing, and licensing will be required to assure knowledge of herbicide uses, risks, and safety.
- Herbicide safety data sheets will be posted at storage facilities; in vehicles; and made available to workers.

*Prescribed fire:* for the use of prescribed fire, extreme care will be taken to:

- avoid excessive consumption of litter and duff;
- reduce fuel consumption on steep and erodible slopes;
- leave unburned buffers of vegetation along streams;
- protect air quality, following all state and local regulations;
- avoid intrusion of smoke into state-identified sensitive areas;
- use the best available technology to reduce smoke;
- (in Oregon) comply with Oregon State Implementation Plan prohibitions; and
- (in Washington) comply with Washington State Smoke Management Plan and Implementation Plan.

Implementation of any alternative would result in some adverse environmental effects that cannot be avoided. Standards and guidelines from Forest Plans—and mitigating measures developed in this Draft Environmental Impact Statement—are intended to keep the extent and duration of these effects within acceptable levels, but adverse effects cannot be completely eliminated.

This Draft Environmental Impact Statement examines alternative programs for managing competing and unwanted vegetation, including slash. The focus of the environmental analysis here is on how a series of projects conducted over a period of years could affect the environment.

The environmental effects of the alternatives are presented in Chapter IV of the Draft Environmental Impact Statement. The effects on the full range of environmental components and conditions are analyzed and presented. The effects on soil, wildlife, fish, timber, scenery, and other aspects are extensively portrayed. The effects of most of them vary little from one alternative to another, and these are not reported here in the Summary.

There are three areas of central concern, and these could have potentially significant adverse effects:

- human health risks;
- degradation of air quality from fires; and
- economic effects from changes in timber yields.

## Unavoidable Adverse Effects

### Human Health Risks

Human health risks exist for both workers and the public. Risks that workers face from vegetation management activities that were considered in the Draft Environmental Impact Statement include:

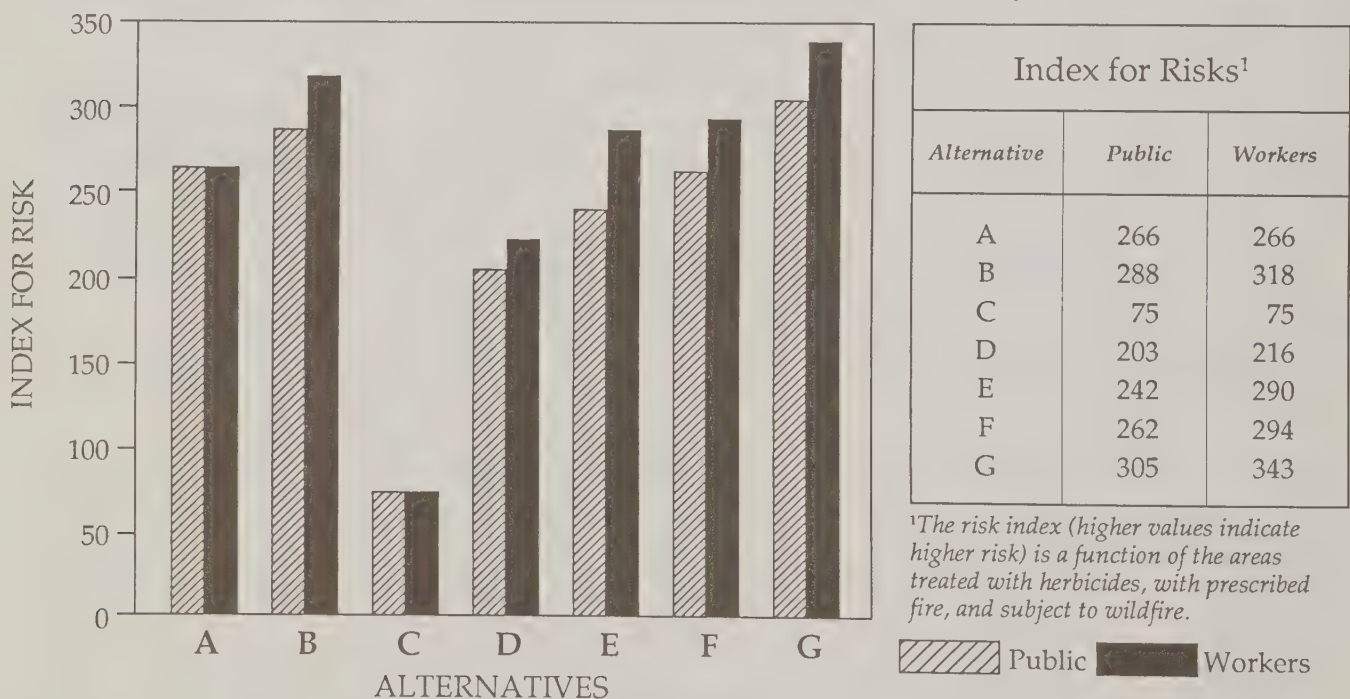
- accidents from manual control of vegetation;
- accidents from prescribed burning and wildfire suppression;
- exposure to smoke; and
- exposure to herbicides.

Two groups—forest workers and the public—face exposure to herbicides and fire smoke, (see Figure S-5). Worker exposures are far greater in quantity and duration for both herbicides and smoke, which

Figure S-5

#### Index for Risks

To Workers and the Public for Exposures to Herbicides and Fire Smoke by Alternative



is why these risks (as a group) are roughly equivalent to the risk to the rest of those affected (the general public). Two alternatives have significantly less risk for both groups. Alternative C has the least risk, and Alternative D has the next least risk.

Health risks to the public can come from accidental exposure to herbicides. Potential routes of exposure to herbicides are discussed in the Draft Environmental Impact Statement in detail. Greater numbers of people are exposed to smoke from prescribed fires or wildfires.

In addition to risks from herbicides and smoke, workers experi-



ence risk from accidents while using equipment and working in rough terrain. The number of predicted accidents is directly correlated with the number of acres treated by manual means and the number of acres burned.

Alternative C ("no action") has by far the fewest number of accidents related to management of competing and unwanted vegetation. Alternative D has the next fewest. All of the remaining alternatives are expected to result in considerably more accidents, with Alternatives A and E having the most (due to increased acreages treated by hand in lieu of herbicides).

Figure S-6 compares estimated yearly injuries to workers with an index for risk to the public from exposure to herbicides and fire smoke. Because risk is directly correlated to number of acres treated, as mentioned previously, risks to both the public and workers generally increase as the level of management activity increases. For Alternatives A and E, more acres are treated by hand rather than with herbicides. This change in treatment causes a decrease in public risk, and an increase in worker risk from accidents.

### ***Air Quality***

The amount of smoke produced from both prescribed fires and wildfires is estimated in the Draft Environmental Impact Statement. The section on air quality in Chapter IV displays (for each alternative) the amount of fine particulate emissions expected from use of prescribed fire.

Alternatives D and F produce significantly less suspended particulates than the rest of the alternatives, except Alternative C, which has no slash burning. (Smoke from wildfires is more dense, and the long-term risk of extensive wildfire is greatest in Alternative C.) All of the alternatives, when applied on a Regional level, meet the requirements of the Washington and Oregon State Implementation Plans, and both states' Smoke Management Plans.

### ***Economic Effects***

Vegetation management activities can affect the long-term timber yield potential of the National Forests. The Forest planning process may translate these long-term effects into present or future changes in timber yields. This, along with the effects of other factors, can affect the level of economic activity in the Region.

There are a variety of economic effects associated with each alternative. One measure is the combined change in direct and indirect jobs in the Northwest. The total employment in Oregon and Washington is approximately three million.

Figure S-6

Comparison of Worker Injuries to Public Risk From Exposure to Herbicides and Fire Smoke

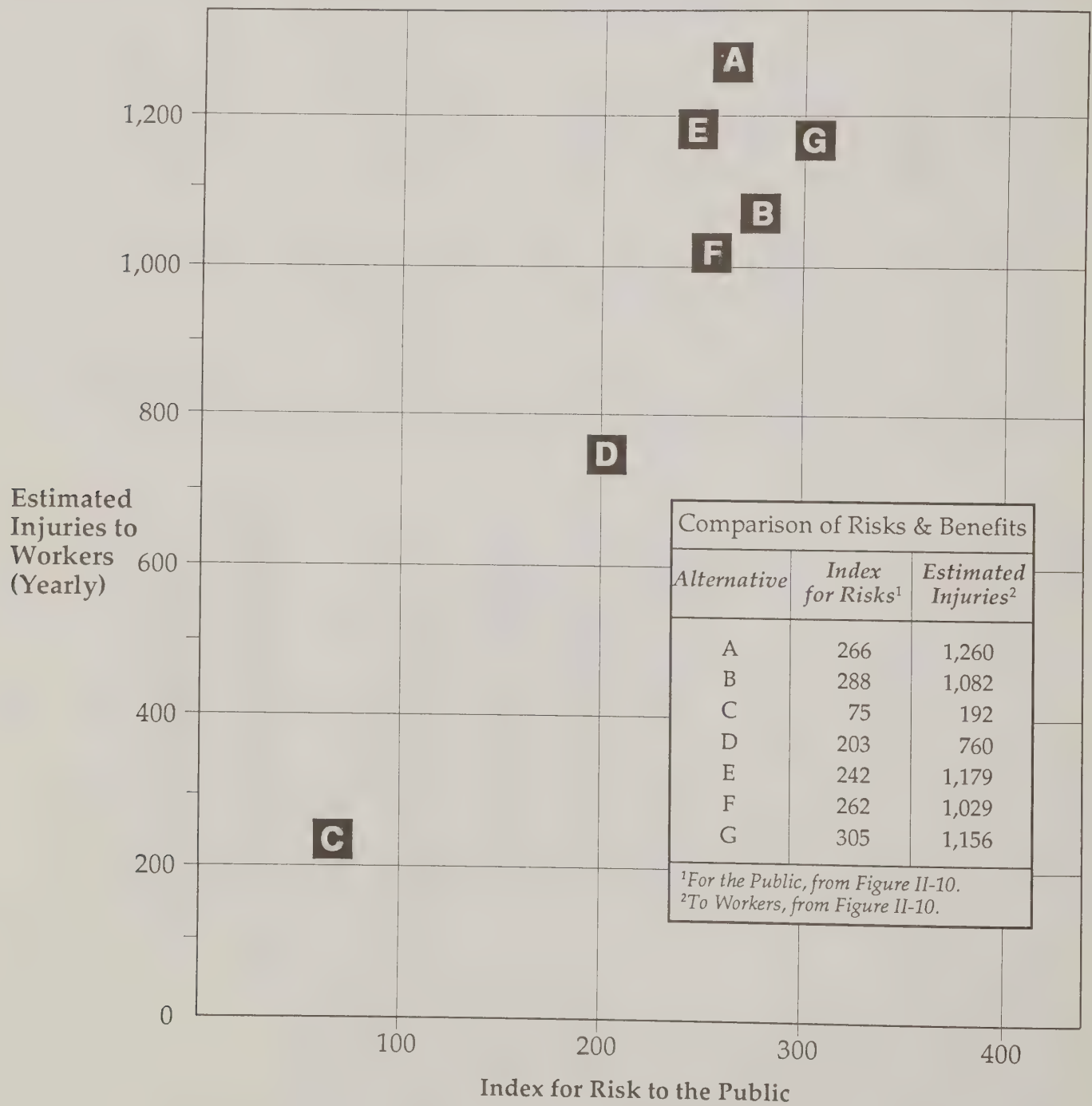
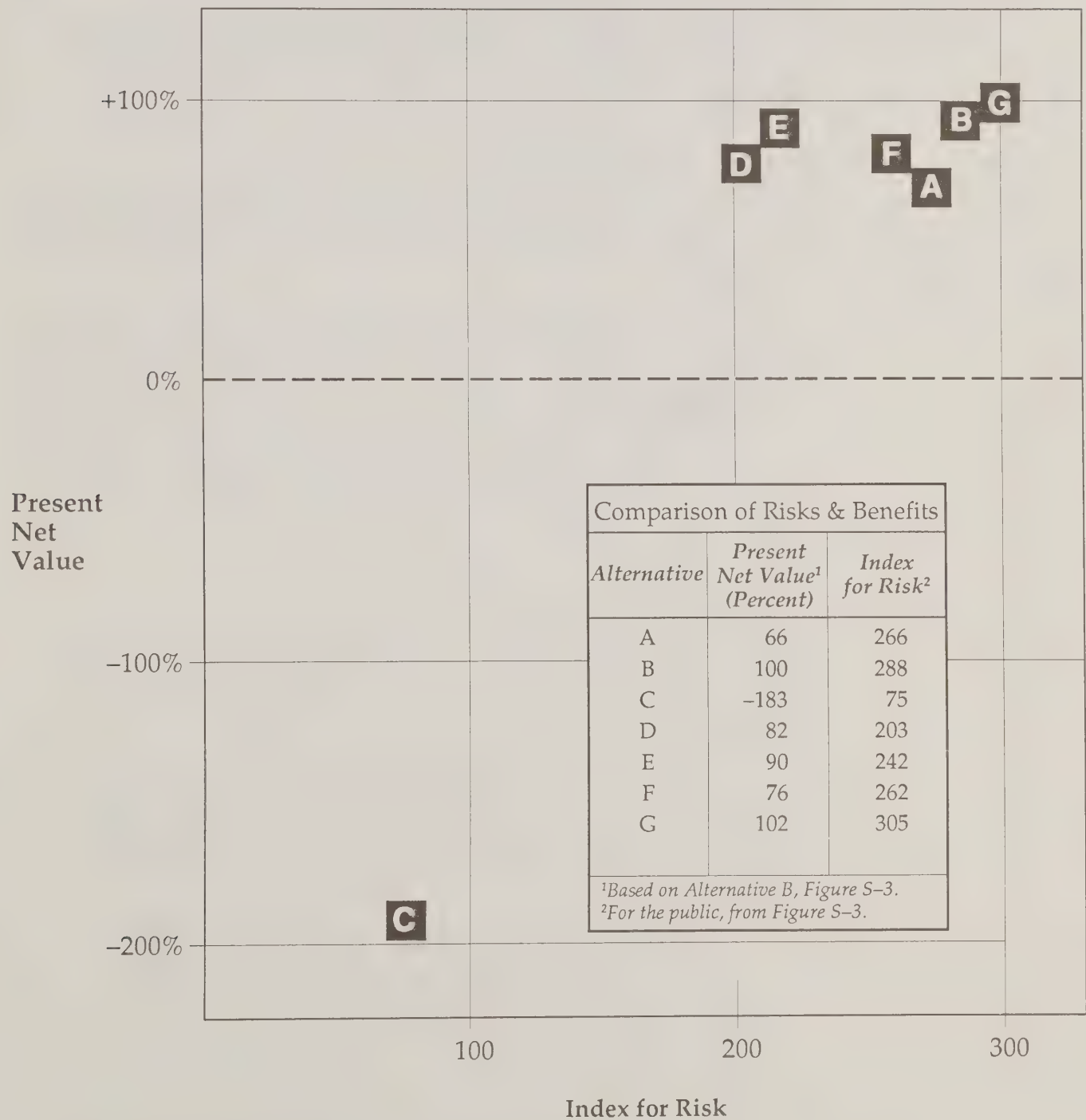


Figure S-7

## Comparison of Benefits to Public Risk From Exposure to Herbicides and Fire Smoke





There are no changes in employment expected if Alternative B were to be implemented. Alternative G could increase employment by 2,600 jobs. Alternatives A and E would reduce employment by 1,100 and 1,400 jobs, respectively. Alternatives D and F would reduce employment by about 3,000 jobs. Alternative C would substantially reduce employment by about 22,000 jobs.

### ***Activity, Risk, and Benefits***

Health risks to the public at large are roughly correlated with overall level of vegetation management activity. The level of vegetation management activity also roughly correlates with levels of economic productivity.

Figure S-7 shows the relationship of risks to net dollar-measurable benefits. Alternative C has the least risk, and also has very low present net value (PNV). Alternative D has the next least risk, with much higher present net value.

Alternatives E, B, and G (respectively) yield incremental increases in present net value, for additional increments of risk. Alternatives F and A pose relatively higher risks than other alternatives with similar present net values.

### ***Other Adverse Effects***

There is the potential for additional adverse effects beyond those described above. The following effects are not expected to be significant, as standards and guidelines and mitigating measures in the Forest Plans will be in effect, as well as the mitigating measures identified in the Draft Environmental Impact Statement.

However, there is the likelihood of minor—and the potential for significant—effects when any of the alternatives which manage vegetation (all except Alternative C) are implemented. These additional adverse effects, which are usually minor, localized, and temporary, are:

- a short-term reduction in air quality from dust, smoke, and engine emissions resulting from vegetation management activities (other than prescribed burning);
- a localized reduction in long-term site productivity from burning of logging slash;
- the acceleration of natural rates of land slides and sediment by soil-disturbing activities associated with the use of heavy equipment for vegetation management projects;
- a temporary increase in fire hazard from waste material left on the ground during vegetation management activities;

- the contamination of water sources due to increased human use of the Forest;
- a decrease in habitat for wildlife species (dependent on particular plant species and growth stages) due to vegetation management activities; and
- damage to soils by compaction from heavy equipment used for vegetation management.

Again, these effects are likely to be minor and short-lived. But if mitigation measures fail, these effects could be significant on the site where they occur.

This summary of the Draft Environmental Impact Statement outlines the vegetation management program, the issues, and the proposed alternatives and mitigation measures. It also provides an overview of the environmental effects of those alternatives. Specific details of these elements are found in the Draft Environmental Impact Statement and its Appendices, available from the Regional Office (in Portland) or from the headquarters of each National Forest in the Pacific Northwest Region.

## Conclusion

## Notes

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## Notes

# Notes

United States  
Department of  
Agriculture

Forest Service

Pacific  
Northwest  
Region



# Response Form

## Managing Competing and Unwanted Vegetation

### Draft Environmental Impact Statement





We are striving to balance many needs and concerns in the development of a new program for vegetation management. We encourage you to read the draft EIS or Summary before commenting. Copies of the draft EIS are available at the National Forest Offices listed below.

We will assess and fully consider all comments, both individually and collectively. Our responses to comments will be made through:

- improving our information and analysis;
- making factual corrections;
- modifying alternatives;
- developing and evaluating alternatives not previously considered, or;
- explaining why the comments are outside the scope of this EIS.

We will attach all comments or comment summaries to the final EIS.

Remember, you have 90 days (until January 15, 1988) in which to complete your review and tell us your point of view and the rationale behind it. Please use the attached mailer or address your letter to:

Gary Larsen  
Vegetation Mangement Group Leader  
USDA Forest Service, Pacific Northwest Region  
P.O. Box 3623  
Portland, OR 97208

If you would like any additional information, please feel free to contact Gary Larsen or Jan Engert at the Pacific Northwest Regional Office, (503) 221-2727.

#### National Forests

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695 S. Main  
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Deschutes National Forest  
1645 Highway 20 East  
Bend, OR 97701  
(503) 388-2715

Fremont National Forest  
524 North G. St.  
Lakeview, OR 97630  
(503) 947-2151

Gifford Pinchot National Forest  
500 West 12th Street  
Vancouver, WA 98660  
(206) 696-7500

Malheur National Forest  
139 N.E. Dayton Street  
John Day, OR 97845  
(503) 575-1731

Mt. Baker-Snoqualmie  
National Forest  
1022 First Avenue  
Seattle, WA 98104  
(206) 442-5400

Mt. Hood National Forest  
2955 NW Division Street  
Gresham, OR 97030  
(503) 666-0700

Umpqua National Forest  
2900 NW Stewart Parkway  
Roseburg, OR 97470  
(503) 672-6601

Wallowa-Whitman  
National Forest  
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Baker, OR 97814  
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301 Yakima Street  
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Winema National Forest  
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Pacific Northwest Region  
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Portland, OR 97204  
(503) 221-2727

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155 North Court Street  
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Okanogan National Forest  
1240 2nd Avenue South  
Okanogan, WA 98840  
(509) 422-2704

Olympic National Forest  
801 Capitol Way  
Olympia, WA 98507  
(206) 753-9535

Rogue River National Forest  
333 West 8th Street  
Medford, OR 97501  
(503) 776-3600

Siskiyou National Forest  
200 NW Greenfield Road  
Grants Pass, OR 97526  
(503) 479-5301

Siuslaw National Forest  
4077 SW Research Way  
Corvallis, OR 97333  
(503) 757-4480

Umatilla National Forest  
2517 SW Hailey Avenue  
Pendleton, OR 97801  
(503) 276-3811

To be most helpful, we need your concise and thoughtful comments on:

- ... The alternatives; telling us which ones you support, or changes that could be made.
- ... Our scientific information and analysis.
- ... The measures we have proposed to protect the environment.

Address: \_\_\_\_\_

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**BUSINESS REPLY MAIL**

FOREST SERVICE, USDA  
Vegetation Management Team  
Pacific Northwest Region  
P.O. Box 3623  
Portland, Oregon 97208

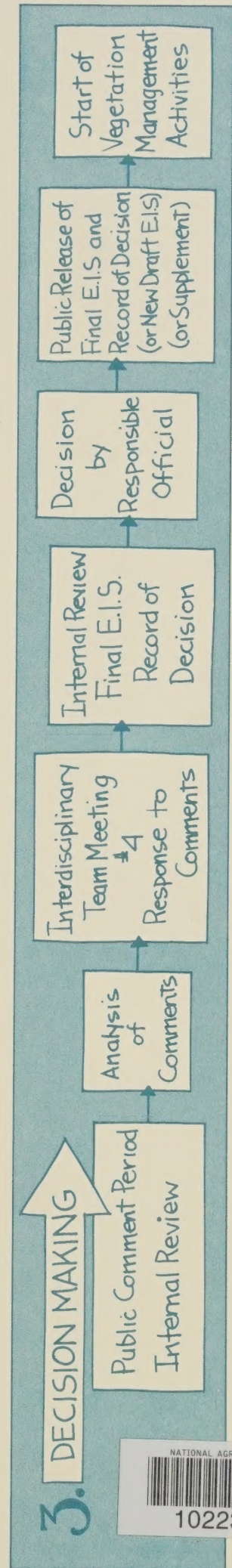
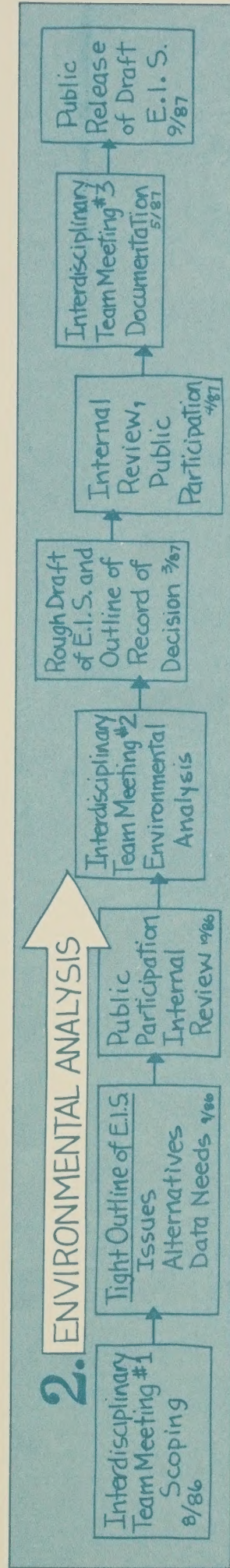
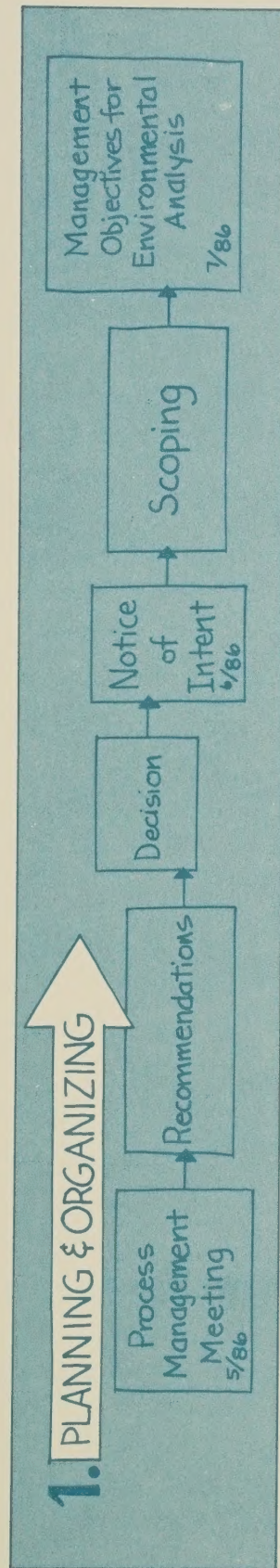
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